



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/702,104

11/04/2003

Gregory B. Altshuler

105090-0129

6794

21125 7590 08/26/2008  
NUTTER MCCLENNEN & FISH LLP  
WORLD TRADE CENTER WEST  
155 SEAPORT BOULEVARD  
BOSTON, MA 02210-2604

EXAMINER

JOHNSON III, HENRY M

ART UNIT

PAPER NUMBER

3739

NOTIFICATION DATE

DELIVERY MODE

08/26/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket@nutter.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/702,104	<b>Applicant(s)</b> ALTSHULER ET AL.	
	<b>Examiner</b> Henry M. Johnson, III	<b>Art Unit</b> 3739	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8,11-13,15-17,19,20,56-60 and 73 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,11-13,15-17,19,20,56-60 and 73 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 3739

### ***Response to Arguments***

Applicant's arguments filed June 23, 2008 with respect to claims have been considered but are moot in view of the new ground(s) of rejection. All prior rejections are withdrawn.

The indicated allowability of claims 15, 23 and 73 are withdrawn in view of the newly discovered reference(s) to Hori and Ostler et al. Rejections based on the newly cited reference(s) follow.

The examiner takes the position that optical sources are pervasive in devices used for treating skin conditions and that a skilled artisan would understand that heat from the sources would require management. The methodology used for such management would not be limited to skin treatment devices as the management is generic to all optical radiation sources.

The claims with limitations including phase change for cooling and total internal reflection

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

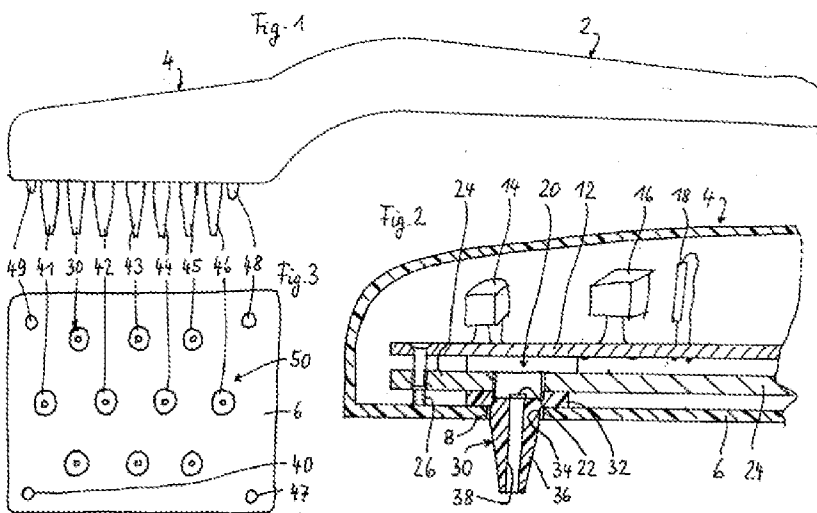
This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

Art Unit: 3739

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 19, 20 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over

German Patent G 91 02 407.2 to Mink in view of U.S. Patent 6,129,723 to Anderson et al. and further in view of U.S. Patent Application Publication US 2001/0046652 to Ostler et al. Mink discloses a hairbrush for delivery of



optical radiation via light guides, each guide having a laser diode as its source (Fig. 1, # 20).

The multiple diodes are an array. A cooling radiator (Fig. 2, # 24) acts as a heat sink for the radiation sources. The light conductors may be interpreted as protuberances or bristles of a brush and are capable of providing a compressive force during use. A handle is disclosed (Fig. 1, # 2). Mink does not teach total internal reflection.

Anderson et al. teach a method of restricting the radiation emitted to a target surface by use of total internal reflection wherein the angles where the radiation encounters different indexes of refraction allow or do not allow the radiation to pass. Such an interface is disclosed as where a lightguide contacts tissue and allows light passage and one where an air interface does not (Col. 7, lines 60-67). It would have been obvious to one skilled in the art to use the radiation inhibitor as taught by Anderson et al. in the device of Mink as any device with laser

Art Unit: 3739

radiation has inherent safety issue with stray radiation that can be harmful to the human eye and a skilled artisan would take every effort to minimize the potential stray radiation.

Mink does teach heat management of the laser diodes using a common heat sink, but does not teach a phase change material. Ostler et al. disclose a light source in a hand held device and the use of a phase change material in thermal communications with the light source to extract heat from the source (paragraph 0069). It would have been obvious to one skilled in the art to use the phase change material for heat extraction as taught by Ostler et al. in the device of Mink as laser diodes are known sources of heat and a skilled artisan would look to known alternative to the common heat sink.

Claims 2, 4, 5, 8, 11-13, 56-60 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent G 91 02 407.2 to Mink in view of U.S. Patent 6,129,723 to Anderson et al. and further in view of U.S. Patent 5,895,350 to Hori.

Mink and Anderson et al. are discussed above, but do not teach a heat conducting handle for heat extraction. Hori teaches a handheld light device with a light source in the device and an aluminum (thermally conductive) handle (Fig. 2) that acts as a heat sink for the light source. It would have been obvious to one skilled in the art to use the thermally conductive handle as taught by Hori in the device of Mink in view of Anderson et al. as an alternative means of heat extraction for the light source in the handheld device.

Regarding claims 12, 59 and 60, laser diodes are well known in the art to be available in a wide range of wavelengths and intensities. It would have been obvious to one skilled in the art to select one or more wavelengths and/or intensities as appropriate for the desired treatment.

Art Unit: 3739

Regarding claim 13, Mink is silent regarding the operation of the diodes, however, a skilled artisan would select continuous or pulsed mode as is well known in the art to provide the desired fluence while protecting the tissue.

Regarding claims 56, the reflection of radiation is an inherent property of the total internal reflection concept and a skilled artisan would adjust the incident angle to achieve the desired emission.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent G 91 02 407.2 to Mink in view of U.S. Patent 6,129,723 to Anderson et al. and further in view of U.S. Patent 5,895,350 to Hori. as applied to claim 73 above and further in view of U.S. Patent 5,300,097 to Lerner et al. Mink, Anderson et al. and Hori are discussed above, but do not teach specific intensity. Lerner et al. disclose a handheld tissue radiation unit and teach the radiation provided may be from 1-10 mW/cm<sup>2</sup> or from 30-1000 mw/cm<sup>2</sup> (Col. 2, lines 47-49). It would have been obvious to one skilled in the art to use the intensities as taught by Lerner et al. in the invention of Mink/Anderson et al./Hori as the selection of the treatment intensities is based on the intended treatment and a skilled artisan would select the power as appropriate.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent G 91 02 407.2 to Mink in view of U.S. Patent 6,129,723 to Anderson et al. and further in view of U.S. Patent 5,895,350 to Hori. as applied to claim 73 above and further in view of U.S. Patent 6,572,637 to Yamazaki et al. Mink, Anderson et al. and Hori are discussed above, but do not teach a contact detection means. Yamazaki et al. disclose a handheld laser skin treatment device with a laser diode projecting radiation through a cylindrical adjuster that includes a microswitch responsive to adjuster's touching the skin for making the electric power supply to

Art Unit: 3739

turn on, and responsive to adjuster's leaving the skin for making the electric power supply to turn off (Col. 3, lines 24-27). It would have been obvious to one skilled in the art to include the contact detector as taught by Yamazaki et al. in the invention of Mink/Anderson et al./Hori as an additional safety against spurious radiation. U.S. Patent 5,133,102 to Sakuma discloses an alternative contact sensor further substantiating the obviousness of such detection in the art.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent G 91 02 407.2 to Mink in view of U.S. Patent 6,129,723 to Anderson et al. and further in view of U.S. Patent 5,895,350 to Hori. as applied to claim 73 above and further in view of U.S. Patent 5,445,608 to Chen et al. Chen et al. teach a device that provides for the delivery of an agent to the treatment site concurrent with radiation (Fig. 16A). It would have been obvious to one skilled in the art to use the agent delivery as taught by Chen in the invention of Mink/Anderson et al./Hori as the use photosensitizers are well known to a skilled artisan as would be the various methodologies for delivery of a photosensitizer; i.e. systemic, direct, etc.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry M. Johnson, III whose telephone number is (571) 272-4768. The examiner can normally be reached on Monday through Friday from 5:30 AM to 2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3739

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Henry M. Johnson, III/  
Primary Examiner, Art Unit 3739

/HMJ/  
8/20/2008